

## Data Validation Checklist

### Semivolatile Organic Analyses

Project: 35<sup>TH</sup> Avenue Superfund Site  
 Laboratory: TestAmerica - Savannah, GA  
 Method: SW-846 8270D (TCL SVOC)  
 Matrix: Soil  
 Reviewer: Nicole Lancaster  
 Concurrence<sup>1</sup>: Martha Meyers-Lee

Project No: 15268508.20000  
 Job ID.: 680-85534-5  
 Associated Samples: Refer to Attachment A (Sample Summary)  
 Samples Collected: 12/05/2012  
 Date: 02/25/2013  
 Date: 03/01/2013

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
1. Were sample storage and preservation requirements met? If temperature >6°C, then J/UJ-flag results.	✓				
2. Were all COC records signed and integrity seals intact, indicating that COC was maintained for all samples?	✓				
3. Were there any problems noted in laboratory data package concerning condition of samples upon receipt?		✓			
4. Do any soil samples contain more than 50% water? If yes, then results are to be reported on a wet-weight basis.		✓			
5. Were holding times met ( $\leq$ 7 and 14 days from collection to extraction for aqueous and solid samples, respectively; $\leq$ 40 days from extraction to analysis)? If not, then J/UJ-flag sample results. If grossly (2x) exceeded, then flag J/R.	✓				
6. Were results for all project-specified target analytes reported?	✓				
7. Were project-specified Reporting Limits achieved for undiluted sample analyses?	✓				
8. Were samples with analyte concentrations exceeding the calibration range of the instrument re-analyzed at a higher dilution? If not, then J-flag sample result.	✓				
9. Was a method blank extracted with each batch (i.e., one per 20 samples, per batch, per matrix and per level)?	✓				
10. Were target analytes detected in the method blank?		✓			
11. Were target analytes detected in equipment/rinsate blanks?		✓		Rinsate blank 120412-RB-Bowls+Spoons (680-85402-21) was analyzed for PAHs only, and target analytes were not detected.	

<sup>1</sup> Independent technical reviewer

## Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
12. Are equipment/rinsate blanks associated with every sample? If no, note in DV report.	✓			According to the QAPP, a rinsate blank is to be collected after each decontamination event, which occurs once per week per the client. A rinsate blank (120412-RB-Bowls+Spoons) was collected during the week of 12/03/12. The rinsate blank was analyzed for PAHs under Test America Job ID 680-85402-2.	
13. Were analytes detected in samples below the blank contamination action level? If yes, U-flag positive sample results <5x associated blank concentration (10x for common blank contaminants – phthalates)			✓	Blank contamination does not exist.	
14. Is a field duplicate associated with this Job?		✓			
15. Was precision deemed acceptable as defined by the project plans?			✓		
16. Were DFTPP ion abundance criteria (i.e., Table 3 of SW-846 8270D) met? If no, professional judgment may be applied to determine to what extent the data may be utilized.	✓			Alternate tuning criteria were used by the laboratory (i.e., EPA Method 525.2). All ion abundance criteria were met per EPA Method 525.2. The laboratory was notified on 2/4/2013 that Form V was incomplete, as the ICV was not listed (refer to page 28 of the data package). A revised Form V was received from the laboratory on 2/26/2013 (refer to <b>Attachment B</b> ).	
17. Were samples analyzed within 12 hours of the DFTPP tune? If no, professional judgment may be applied to determine to what extent the data may be utilized.	✓				
18. Were initial and continuing calibration standards analyzed at the proper frequency for each instrument? <ul style="list-style-type: none"> <li>• Ensure that a minimum of five standards are used for the initial calibration. If no, use professional judgment to determine the effect on the data and note in the reviewer narrative.</li> <li>• An initial calibration is to be associated with each sample analysis.</li> <li>• A continuing calibration standard is to be analyzed for every 12 hours of sample analysis per instrument.</li> </ul>	✓			<ul style="list-style-type: none"> <li>• Instrument ID: MSG5973</li> <li>• Initial Calibration: 12/18/2012</li> <li>• ICV: 12/18/12 @ 14:47 (Associated ICV provided by the laboratory on 2/12/2013, refer to <b>Attachment B</b>)</li> <li>• CCV: 12/20/12 @ 15:30</li> <li>• CCV: 12/21/12 @ 07:32</li> </ul>	
19. Were calibration results within laboratory/project specifications? <ul style="list-style-type: none"> <li>• ICAL (Criteria: <math>\leq 15</math> mean %RSD with no individual CCC %RSD <math>\leq 30</math> (<math>\leq 50\%</math> for poor performers), OR <math>r \geq 0.995</math>, OR</li> </ul>		✓		<ul style="list-style-type: none"> <li>• ICAL of 12/18/2012, instrument MSG5973: <ul style="list-style-type: none"> <li>◦ Benzaldehyde @ 38.2%RSD (Lab: <math>\leq 20</math>, Project: <math>\leq 50</math>). Qualification of sample results is not warranted, as the analyte is a poor performer and</li> </ul> </li> </ul>	UJ

## Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
$r^2 \geq 0.99$ , and RRF $\geq 0.050$ ( $\geq 0.010$ for poor performers)): <ul style="list-style-type: none"> <li>○ If %RSD &gt; 15 (&gt; 50% for poor performers), or <math>r &lt; 0.995</math>, or <math>r^2 &lt; 0.995</math>, then J-flag positive results and UJ-flag non-detects</li> <li>○ If mean RRF &lt; 0.050 (&lt; 0.010 for poor performers), then J-flag positive results and R-flag non-detects</li> </ul> <ul style="list-style-type: none"> <li>● ICV and CCV (Criteria: <math>\leq 20\%</math>D (<math>\leq 50\%</math> for poor performers) and RF <math>\geq 0.050</math> (<math>\geq 0.010</math> for poor performers)):               <ul style="list-style-type: none"> <li>○ If %D &gt; 20 (&gt; 50% for poor performers), then J-flag positive results and UJ-flag non-detects</li> <li>○ If RF &lt; 0.050 (&lt; 0.010 for poor performers), then UJ-flag non-detected semivolatile target compounds</li> </ul> </li> </ul>				the relative standard deviation (%RSD) between calibration response factors is less than 50. <ul style="list-style-type: none"> <li>○ Atrazine @ 55.9% RSD (Lab: <math>\leq 20</math>, Project: <math>\leq 50</math>) J-Flag result in all samples, as the %D between calibration response factors is indicative of a negative bias and the analyte was not detected in any samples.</li> </ul> <ul style="list-style-type: none"> <li>● ICV of 12/18/12 @ 14:47:               <ul style="list-style-type: none"> <li>○ Benzaldehyde @ -45.3%D (Lab: <math>\leq 30</math>, Project: <math>\leq 50</math>). Qualification of sample results is not warranted, as the analyte is a poor performer and the percent difference (%D) between calibration response factors is less than 50.</li> <li>○ Atrazine @ 63.7%D (Lab: <math>\leq 30</math>, Project: <math>\leq 50</math>). J-UJ-Flag result in all samples, as the %D between calibration response factors is indicative of a negative bias and the analyte was not detected in any samples.</li> </ul> </li> <li>● CCV of 12/20/12 @ 15:30: Atrazine @ 23.4%D (Lab: <math>\leq 20</math>, Project: <math>\leq 20</math>). UJ-flag ND result in the associated sample HP0012B-CS (680-85534-5).</li> </ul>	
20. Was a LCS prepared for each batch and matrix?	✓				
21. Were LCS recoveries within lab control limits? If no, J-flag positive results when %R > Upper Control Limit (UCL) and J/R-flag results when %R < Lower Control Limit (LCL).	✓				
22. Were LCS/LCSD RPD within lab specifications? If no, J-flag positive results and UJ-flag non-detects	✓				
23. Was a MS/MSD pair extracted at the proper frequency (one per 20 samples per batch)?	✓				
24. Is the MS/MSD parent sample a project-specific sample?	✓			Prep Batch 260192: 680-85534-5 (HP0012B-CS), MS/MSD	
25. Were MS/MSD recoveries within laboratory/project specifications? <i>Only QC results for project samples are evaluated.</i> <ul style="list-style-type: none"> <li>● If the native sample concentration &gt; 4x spiking level, then an evaluation of interference is not possible.</li> <li>● If either MS or MSD recovery meets control limits,</li> </ul>		✓		MS and MSD recoveries were outside of control limits during the analysis of sample HP0012B -CS (680-85534-5) (refer to <b>Attachment C</b> ).	J, UJ, R

**Data Validation Checklist (Continued)**

<b>Review Questions</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Samples (Analytes) Affected/Comments</b>	<b>Flag</b>
qualification of data is not warranted. <ul style="list-style-type: none"><li>• MS and MSD %R&lt;10: J and R Flag positive and ND results, respectively</li><li>• MS and MSD %R &gt;10 and &lt;LCL: J-Flag positive and UJ-flag non-detect results</li><li>• MS and MSD R% &gt;UCL (or 140): J-Flag positive results</li></ul>					
26. Were laboratory criteria met for precision during the MS/MSD analysis? <i>Only QC results for project samples are evaluated.</i> <ul style="list-style-type: none"><li>• If the native sample concentration &gt; 4x spiking level, then an evaluation of interference is not possible.</li><li>• If %RPD &gt; UCL, J-flag positive result and UJ-flag non-detect result</li></ul>		✓		Relative percent difference between MS and MSD results did not meet control limits during the analysis of sample HP0012B -CS (680-85534-5) (refer to <b>Attachment C</b> ).	UJ
27. Were surrogate recoveries within lab/project specifications? <ul style="list-style-type: none"><li>• If %R for 1 Acid or BN surrogates &lt;10, then J-flag positive and R-flag non-detect associated sample results</li><li>• If 2 or more Acid or BN %R &gt;UCL, then J-flag positive results</li><li>• If 2 or more Acid or BN %R ≥10%, but &lt;LCL, then J-flag positive results and UJ-flag non-detect results</li><li>• If 2 or more Acid or BN , with 1 %R &gt;UCL and 1 %R ≥10%, but &lt;LCL, then J-flag positive results and UJ-flag non-detect results</li></ul>		✓			
28. Were internal standard (IS) results within lab/project specifications? <ul style="list-style-type: none"><li>• If IS area counts are less than 50% of the midpoint calibration standard, then J-flag positive and UJ-flag non-detect associated sample results</li><li>• If IS area counts are greater than 100% of the midpoint calibration standard, then J-flag positive results</li><li>• If extremely low area counts are reported or performance exhibits a major abrupt drop-off, then a severe loss of sensitivity is indicated, J-flag positive and R-flag non-detect results</li><li>• If retention time of sample's internal standard is not within 30 seconds of the associated calibration standard, R-flag associated data.</li></ul>		✓			

**Data Validation Checklist (Continued)**

<b>Review Questions</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Samples (Analytes) Affected/Comments</b>	<b>Flag</b>
<ul style="list-style-type: none"> <li>The chromatographic profile for that sample must be examined to determine if any false positives or negatives exists. For shifts of large magnitude, the reviewer may consider partial or total rejection of the data for that sample fraction. Positive results need not be qualified as R, if mass spectral criteria are met.</li> </ul>					
29. Were lab comments included in report?	✓			Refer to <b>Attachment D</b> (Case Narrative)	
<b>Comments:</b> The data validation was conducted in accordance with the <i>Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1</i> (OTIE, October 2012). The data review process was modeled after the <i>USEPA Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Organic Methods Data Review</i> (EPA, October 1999) and <i>USEPA CLP NFG for Low Concentration Organic Methods Data Review</i> (EPA, June 2001). Sample results have been qualified based on the results of the data review process ( <b>Attachment E</b> ). Criteria for acceptability of data were based upon available site information, analytical method requirements, guidance documents, and professional judgment.					

**DV Flag Definitions:**

- J      The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.  
 R      The sample results are unusable. The analyte may or may not be present in the sample.  
 U      The analyte was analyzed for, but was not detected above the associated level; blank contamination may exist.  
 UJ     The analyte was not detected above the limit, and the limit is approximate and may be inaccurate or imprecise.

**ATTACHMENT A**

**SAMPLE SUMMARY**

## SAMPLE SUMMARY

Client: Oneida Total Integrated Enterprises LLC

Job Number: 680-85534-5  
Sdg Number: 68085534-4

<b>Lab Sample ID</b>	<b>Client Sample ID</b>	<b>Client Matrix</b>	<b>Date/Time Sampled</b>	<b>Date/Time Received</b>
680-85534-5	HP0012B-CS	Solid	12/05/2012 1145	12/07/2012 0924
680-85534-5MS	HP0012B-CS	Solid	12/05/2012 1145	12/07/2012 0924
680-85534-5MSD	HP0012B-CS	Solid	12/05/2012 1145	12/07/2012 0924
680-85534-10	FM0080A-CS-SP	Solid	12/05/2012 1541	12/07/2012 0924
680-85534-15	FM0025C-CS-SP	Solid	12/05/2012 0942	12/07/2012 0924
680-85534-18	FM0165A-CS	Solid	12/05/2012 0858	12/07/2012 0924
680-85534-18MS	FM0165A-CS	Solid	12/05/2012 0858	12/07/2012 0924
680-85534-18MSD	FM0165A-CS	Solid	12/05/2012 0858	12/07/2012 0924
680-85534-31	FM0165N-CS	Solid	12/05/2012 1056	12/07/2012 0924
680-85534-49	HP0022A-CS	Solid	12/05/2012 1345	12/07/2012 0924
680-85534-53	HP0067A-CS	Solid	12/05/2012 1500	12/07/2012 0924
680-85534-53MS	HP0067A-CS	Solid	12/05/2012 1500	12/07/2012 0924
680-85534-53MSD	HP0067A-CS	Solid	12/05/2012 1500	12/07/2012 0924
680-85534-55	CV0442A-CS-SP	Solid	12/05/2012 1356	12/07/2012 0924
680-85534-57	FM0165A-CS (sieve)	Solid	12/05/2012 0858	12/07/2012 0924
680-85534-58	FM0080A-CS-SP (sieve)	Solid	12/05/2012 1541	12/07/2012 0924
680-85534-59	FM0067A-CS (sieve)	Solid	12/05/2012 1500	12/07/2012 0924
680-85534-60	HP0012B-CS (sieve)	Solid	12/05/2012 1145	12/07/2012 0924

**ATTACHMENT B**

**DATA PACKAGE ADDENDUM**

FORM V  
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK  
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Savannah

Job No.: 680-85534-5

SDG No.: 68085534-4

Lab File ID: gl1800t.d

DFTPP Injection Date: 12/18/2012

Instrument ID: MSG

DFTPP Injection Time: 11:38

Analysis Batch No.: 260483

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0- 80.0% of mass 198	54.1
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	48.0
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	25.0 - 75.0% of mass 198	55.8
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	7.9
275	10.0- 30.0% of mass 198	25.9
365	Greater than 0.75% of mass 198	3.2
441	Present, but less than mass 443	11.3
442	40.0 - 110.0% of mass 198	70.6
443	15.0 - 24.0% of mass 442	14.1 (19.9)2

1-Value is % mass 69

2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	ICIS 680-260483/2	gl1801q.d	12/18/2012	11:53
	IC 680-260483/3	gl1802q.d	12/18/2012	12:22
	IC 680-260483/4	gl1803q.d	12/18/2012	12:51
	IC 680-260483/5	gl1804q.d	12/18/2012	13:20
	IC 680-260483/6	gl1805q.d	12/18/2012	13:49
	IC 680-260483/7	gl1806q.d	12/18/2012	14:18
	ICV 680-260483/8	gl1807q.d	12/18/2012	14:47

FORM VII  
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Savannah

Job No.: 680-85534-5

SDG No.: 68085534-4

Lab Sample ID: ICV 680-260483/8

Calibration Date: 12/18/2012 14:47

Instrument ID: MSG

Calib Start Date: 12/18/2012 11:53

GC Column: RXi- 5Sil MS ID: 0.25 (mm)

Calib End Date: 12/18/2012 14:18

Lab File ID: gl1807q.d

Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methyl Phenols, Total	Ave	1.386	1.417	0.6000	166	160	2.2	30.0
1,4-Dioxane	Ave	0.5381	0.5872		330	80.0	9.1	30.0
N-Nitrosodimethylamine	Ave	0.9371	1.010		330	80.0	7.8	30.0
Pyridine	Ave	1.319	1.461		88.6	80.0	10.8	30.0
Benzaldehyde	Ave	0.6844	0.3744	0.0100	330	80.0	-45.3*	30.0
Phenol	Ave	1.848	2.005	0.8000	86.8	80.0	8.5	30.0
Aniline	Ave	1.678	2.081		99.2	80.0	24.0	30.0
Bis(2-chloroethyl)ether	Ave	1.004	0.9948	0.7000	79.3	80.0	-0.9	30.0
2-Chlorophenol	Ave	1.464	1.564	0.8000	85.4	80.0	6.8	30.0
1,3-Dichlorobenzene	Ave	1.680	1.711		81.5	80.0	1.9	30.0
1,4-Dichlorobenzene	Ave	1.650	1.660		80.5	80.0	0.6	30.0
Benzyl alcohol	Ave	0.9675	0.995		82.3	80.0	2.8	30.0
1,2-Dichlorobenzene	Ave	1.547	1.571		81.2	80.0	1.6	30.0
2-Methylphenol	Ave	1.102	1.216	0.7000	88.3	80.0	10.3	30.0
bis (2-chloroisopropyl) ether	Ave	2.006	2.093	0.0100	83.4	80.0	4.3	30.0
Acetophenone	Ave	0.4809	0.4916	0.0100	81.8	80.0	2.2	30.0
3 & 4 Methylphenol	Ave	1.671	1.619		77.5	80.0	-3.1	30.0
N-Nitrosodi-n-propylamine	Ave	0.9462	0.9810	0.5000	82.9	80.0	3.7	30.0
Hexachloroethane	Ave	0.6229	0.6275	0.3000	80.6	80.0	0.8	30.0
Nitrobenzene	Ave	0.3461	0.3459	0.2000	79.9	80.0	-0.0	30.0
Isophorone	Ave	0.6414	0.6328	0.4000	78.9	80.0	-1.3	30.0
2-Nitrophenol	Ave	0.1980	0.2104	0.1000	85.0	80.0	6.3	30.0
2,4-Dimethylphenol	Ave	0.2942	0.3298	0.2000	89.7	80.0	12.1	30.0
Bis(2-chloroethoxy)methane	Ave	0.3719	0.3756	0.3000	80.8	80.0	1.0	30.0
Benzoic acid	Ave	0.2865	0.2680		1700	80.0	-6.5	30.0
2,4-Dichlorophenol	Ave	0.3093	0.3228	0.2000	83.5	80.0	4.4	30.0
1,2,4-Trichlorobenzene	Ave	0.3344	0.3347		80.1	80.0	0.0	30.0
Naphthalene	Ave	1.006	1.012	0.7000	80.5	80.0	0.6	30.0
4-Chloroaniline	Ave	0.3912	0.4356	0.0100	89.1	80.0	11.3	30.0
Hexachlorobutadiene	Ave	0.1897	0.1897	0.0100	80.0	80.0	0.0	30.0
Caprolactam	Ave	0.1148	0.1157	0.0100	80.6	80.0	0.8	30.0
4-Chloro-3-methylphenol	Ave	0.3056	0.3138	0.2000	82.1	80.0	2.7	30.0
2-Methylnaphthalene	Ave	0.7346	0.7588	0.4000	82.6	80.0	3.3	30.0
1-Methylnaphthalene	Ave	0.6964	0.6868		78.9	80.0	-1.4	30.0
Hexachlorocyclopentadiene	Ave	0.3634	0.3738	0.0500	82.3	80.0	2.9	30.0
2,4,6-Trichlorophenol	Ave	0.3689	0.3920	0.2000	85.0	80.0	6.3	30.0
2,4,5-Trichlorophenol	Ave	0.3960	0.4083	0.2000	82.5	80.0	3.1	30.0
1,1'-Biphenyl	Ave	1.406	1.402	0.0100	330	80.0	-0.3	30.0
2-Chloronaphthalene	Ave	1.080	1.148	0.8000	85.0	80.0	6.3	30.0
2-Nitroaniline	Ave	0.3033	0.3715	0.0100	98.0	80.0	22.5	30.0

FORM VII  
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Savannah

Job No.: 680-85534-5

SDG No.: 68085534-4

Lab Sample ID: ICV 680-260483/8

Calibration Date: 12/18/2012 14:47

Instrument ID: MSG

Calib Start Date: 12/18/2012 11:53

GC Column: RXi- 5Sil MS ID: 0.25 (mm)

Calib End Date: 12/18/2012 14:18

Lab File ID: gl1807q.d

Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dimethyl phthalate	Ave	1.309	1.313	0.0100	80.2	80.0	0.3	30.0
2,6-Dinitrotoluene	Ave	0.2846	0.3052	0.2000	85.8	80.0	7.2	30.0
Acenaphthylene	Ave	1.724	1.744	0.9000	80.9	80.0	1.2	30.0
3-Nitroaniline	Ave	0.3206	0.3517	0.0100	87.8	80.0	9.7	30.0
Acenaphthene	Ave	1.079	1.163	0.9000	86.3	80.0	7.8	30.0
2,4-Dinitrophenol	Ave	0.1563	0.1887	0.0100	1700	80.0	20.8	30.0
4-Nitrophenol	Ave	0.2367	0.2541	0.0100	1700	80.0	7.4	30.0
2,4-Dinitrotoluene	Ave	0.3902	0.4106	0.2000	84.2	80.0	5.3	30.0
Dibenzofuran	Ave	1.560	1.561	0.8000	80.0	80.0	0.0	30.0
Diethyl phthalate	Ave	1.253	1.288	0.0100	82.2	80.0	2.8	30.0
4-Chlorophenyl phenyl ether	Ave	0.6715	0.6984	0.4000	83.2	80.0	4.0	30.0
Fluorene	Ave	1.317	1.394	0.9000	84.7	80.0	5.9	30.0
4-Nitroaniline	Ave	0.3335	0.3485	0.0100	83.6	80.0	4.5	30.0
4,6-Dinitro-2-methylphenol	Ave	0.1364	0.1494	0.0100	1700	80.0	9.5	30.0
N-Nitrosodiphenylamine	Ave	0.5498	0.7069	0.0100	103	80.0	28.6	30.0
1,2-Diphenylhydrazine (as Azobenzene)	Ave	0.6962	0.7096		81.5	80.0	1.9	30.0
4-Bromophenyl phenyl ether	Ave	0.2301	0.2330	0.1000	81.0	80.0	1.3	30.0
Hexachlorobenzene	Ave	0.2379	0.2440	0.1000	82.0	80.0	2.6	30.0
Atrazine	Ave	0.1266	0.2072	0.0100	131	80.0	63.7*	30.0
Pentachlorophenol	Ave	0.1574	0.1757	0.0500	1700	80.0	11.7	30.0
Dinoseb	QuaF	0.1859	0.2266		330	80.0	5.8	
Phenanthrene	Ave	1.076	1.113	0.7000	82.8	80.0	3.5	30.0
Anthracene	Ave	1.094	1.150	0.7000	84.1	80.0	5.1	30.0
Carbazole	Ave	1.067	1.140	0.0100	85.5	80.0	6.9	30.0
Di-n-butyl phthalate	Ave	1.330	1.405	0.0100	84.5	80.0	5.7	30.0
Fluoranthene	Ave	1.313	1.376	0.6000	83.8	80.0	4.8	30.0
Benzidine	Ave	0.2814	0.4990		2700	80.0	77.4*	30.0
Pyrene	Ave	1.196	1.235	0.6000	82.6	80.0	3.2	30.0
Butyl benzyl phthalate	Ave	0.5470	0.5541	0.0100	81.0	80.0	1.3	30.0
3,3'-Dichlorobenzidine	Ave	0.4402	0.4400	0.0100	80.0	80.0	-0.0	30.0
Benzo[a]anthracene	Ave	1.158	1.204	0.8000	83.1	80.0	3.9	30.0
Bis(2-ethylhexyl) phthalate	Ave	0.7337	0.7403	0.0100	80.7	80.0	0.9	30.0
Chrysene	Ave	1.022	1.021	0.7000	79.9	80.0	-0.1	30.0
Di-n-octyl phthalate	Ave	1.261	1.327	0.0100	84.2	80.0	5.2	30.0
Benzo[b]fluoranthene	Ave	1.216	1.367	0.7000	89.9	80.0	12.4	30.0
Benzo[k]fluoranthene	Ave	1.227	1.143	0.7000	74.5	80.0	-6.9	30.0
Benzo[a]pyrene	Ave	1.049	1.231	0.7000	93.9	80.0	17.4	30.0
Indeno[1,2,3-cd]pyrene	Ave	1.185	1.264	0.5000	85.4	80.0	6.7	30.0
Dibenz(a,h)anthracene	Ave	1.095	1.123	0.4000	82.0	80.0	2.5	30.0
Benzo[g,h,i]perylene	Ave	1.094	1.132	0.5000	82.8	80.0	3.5	30.0

FORM VII  
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Savannah

Job No.: 680-85534-5

SDG No.: 68085534-4

Lab Sample ID: ICV 680-260483/8

Calibration Date: 12/18/2012 14:47

Instrument ID: MSG

Calib Start Date: 12/18/2012 11:53

GC Column: RXi- 5Sil MS ID: 0.25 (mm)

Calib End Date: 12/18/2012 14:18

Lab File ID: gl1807q.d

Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Fluorophenol (Surr)	Ave	1.422	1.435		80.7	80.0	0.9	30.0
Phenol-d5 (Surr)	Ave	1.806	1.749		77.5	80.0	-3.1	30.0
Nitrobenzene-d5 (Surr)	Ave	0.3692	0.3392		73.5	80.0	-8.1	30.0
2-Fluorobiphenyl	Ave	1.331	1.288		77.4	80.0	-3.2	30.0
2,4,6-Tribromophenol (Surr)	Ave	0.2010	0.1948		77.5	80.0	-3.1	30.0
Terphenyl-d14 (Surr)	Ave	0.9486	0.8981		75.7	80.0	-5.3	30.0

TESTAMERICA SAVANNAH

Semivolatile REPORT SW-846 Method 8270C  
Data file : /chem/SM/MSG5973.i/1g121812D.b/g11807q.d  
Lab Smp Id: ICV-2858117;BNAICV-  
Inj Date : 18-DEC-2012 14:47  
Operator : BB Inst ID: MSG5973.i  
Smp Info : ICV-2858117;BNAICV-59  
Misc Info :  
Comment :  
Method : /chem/SM/MSG5973.i/1g121812D.b/g-8270D-m.m  
Meth Date : 20-Dec-2012 09:18 boyukb Quant Type: ISTD  
Cal Date : 18-DEC-2012 21:05 Cal File: g11820q.d  
Als bottle: 9 Continuing Calibration Sample  
Dil Factor: 1.00000  
Integrator: HP RTE Compound Sublist: TL2007.sub  
Target Version: 3.50  
Processing Host: savchem1

Compounds	QUANT SIG	AMOUNTS						
		MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/ml)	ON-COL (ug/ml)
*	1 1,4-Dichlorobenzene-d4	152	5.918	5.918 (1.000)		122167	40.0000	
	2 1,4-Dioxane	88	2.526	2.526 (0.427)		143482	80.0000	87
	3 Pyridine	79	2.910	2.910 (0.492)		356868	80.0000	89
	4 N-Nitrosodimethylamine	42	2.846	2.846 (0.481)		246846	80.0000	86
\$	5 2-Fluorophenol	112	4.529	4.529 (0.765)		350652	80.0000	81
\$	6 Phenol-d5	99	5.549	5.549 (0.938)		427457	80.0000	77
	7 Aniline	93	5.587	5.587 (0.944)		508473	80.0000	99(H)
	8 Phenol	94	5.560	5.560 (0.940)		489984	80.0000	87
	9 Bis(2-chloroethyl)ether	63	5.651	5.651 (0.955)		243051	80.0000	79(H)
10	2-Chlorophenol	128	5.710	5.710 (0.965)		382157	80.0000	85
11	1,3-Dichlorobenzene	146	5.864	5.864 (0.991)		418050	80.0000	81(H)
12	1,4-Dichlorobenzene	146	5.934	5.934 (1.003)		405663	80.0000	80(H)
13	Benzyl Alcohol	108	6.051	6.051 (1.023)		243125	80.0000	82(H)
14	1,2-Dichlorobenzene	146	6.083	6.083 (1.028)		383815	80.0000	81
15	2-Methylphenol	107	6.164	6.164 (1.042)		297064	80.0000	88(H)
16	bis (2-Chloroisopropyl) ether	45	6.185	6.185 (1.045)		511302	80.0000	83(H)
17	N-Nitroso-di-n-propylamine	70	6.308	6.308 (1.066)		239689	80.0000	83(H)
18	3&4-Methylphenol	107	6.308	6.308 (1.066)		395597	80.0000	78(H)
19	Hexachloroethane	117	6.409	6.409 (1.083)		153330	80.0000	81
*	20 Naphthalene-d8	136	7.104	7.104 (1.000)		511388	40.0000	
\$	21 Nitrobenzene-d5	82	6.447	6.447 (0.907)		346953	80.0000	74(H)
	22 Nitrobenzene	77	6.463	6.463 (0.910)		353754	80.0000	80
	23 Isophorone	82	6.682	6.682 (0.941)		647257	80.0000	79
	24 2-Nitrophenol	139	6.757	6.757 (0.951)		215165	80.0000	85
	25 2,4-Dimethylphenol	122	6.794	6.794 (0.956)		337346	80.0000	90
	26 Bis(2-chloroethoxy)methane	93	6.874	6.874 (0.968)		384184	80.0000	81(H)

Compounds	QUANT SIG	AMOUNTS					
		MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/ml)
27 Benzoic acid	105	6.890	6.890	(0.970)	274065	80.0000	75
28 2,4-Dichlorophenol	162	6.976	6.976	(0.982)	330161	80.0000	83(H)
29 1,2,4-Trichlorobenzene	180	7.050	7.050	(0.992)	342273	80.0000	80(H)
30 Naphthalene	128	7.120	7.120	(1.002)	1034772	80.0000	80(H)
31 4-Chloroaniline	127	7.163	7.163	(1.008)	445469	80.0000	89
32 Hexachlorobutadiene	225	7.237	7.237	(1.019)	194045	80.0000	80(H)
33 4-Chloro-3-methylphenol	107	7.579	7.579	(1.067)	320907	80.0000	82(H)
34 2-Methylnaphthalene	142	7.723	7.723	(1.087)	776126	80.0000	83
35 1-Methylnaphthalene	142	7.814	7.814	(1.100)	702485	80.0000	79(H)
* 36 Acenaphthene-d10	164	8.808	8.808	(1.000)	311280	40.0000	
37 Hexachlorocyclopentadiene	237	7.878	7.878	(0.894)	232687	80.0000	82(H)
38 2,4,6-Trichlorophenol	196	7.985	7.985	(0.907)	244062	80.0000	85(H)
39 2,4,5-Trichlorophenol	196	8.023	8.023	(0.911)	254213	80.0000	82(H)
\$ 40 2-Fluorobiphenyl	172	8.060	8.060	(0.915)	802136	80.0000	77(H)
41 2-Chloronaphthalene	162	8.194	8.194	(0.930)	714984	80.0000	85(H)
42 2-Nitroaniline	65	8.284	8.284	(0.941)	231304	80.0000	98(H)
43 Dimethylphthalate	163	8.477	8.477	(0.962)	817342	80.0000	80
44 2,6-Dinitrotoluene	165	8.546	8.546	(0.970)	189982	80.0000	86(H)
45 Acenaphthylene	152	8.648	8.648	(0.982)	1085977	80.0000	81(H)
46 3-Nitroaniline	138	8.744	8.744	(0.993)	218968	80.0000	88(H)
47 Acenaphthene	154	8.851	8.851	(1.005)	724114	80.0000	86(H)
48 2,4-Dinitrophenol	184	8.856	8.856	(1.005)	117502	80.0000	97(Q)
49 4-Nitrophenol	65	8.915	8.915	(1.012)	158194	80.0000	86
50 Dibenzofuran	168	9.048	9.048	(1.027)	971801	80.0000	80
51 2,4-Dinitrotoluene	165	9.011	9.011	(1.023)	255645	80.0000	84(H)
53 Diethylphthalate	149	9.299	9.299	(1.056)	801946	80.0000	82
54 Fluorene	166	9.454	9.454	(1.073)	867908	80.0000	85(H)
55 4-Chlorophenyl-phenylether	204	9.444	9.444	(1.072)	434807	80.0000	83(H)
56 4-Nitroaniline	138	9.465	9.465	(1.075)	216958	80.0000	84
\$ 57 2,4,6-Tribromophenol	329	9.743	9.743	(1.106)	121291	80.0000	78(H)
* 58 Phenanthrene-d10	188	10.587	10.587	(1.000)	518817	40.0000	
59 4,6-Dinitro-2-methylphenol	198	9.502	9.502	(0.898)	154988	80.0000	88(H)
60 N-Nitrosodiphenylamine	169	9.588	9.588	(0.906)	733545	80.0000	100
61 1,2-Diphenylhydrazine	77	9.636	9.636	(0.910)	736265	80.0000	82(H)
62 4-Bromophenyl-phenylether	248	10.042	10.042	(0.949)	241784	80.0000	81(H)
63 Hexachlorobenzene	284	10.133	10.133	(0.957)	253194	80.0000	82
64 Pentachlorophenol	266	10.357	10.357	(0.978)	182302	80.0000	89(H)
65 Phenanthrene	178	10.614	10.614	(1.003)	1154997	80.0000	83(H)
66 Anthracene	178	10.678	10.678	(1.009)	1192768	80.0000	84
67 Carbazole	167	10.859	10.859	(1.026)	1183139	80.0000	85(H)
68 Di-n-Butylphthalate	149	11.276	11.276	(1.065)	1457854	80.0000	85(H)
69 Fluoranthene	202	11.997	11.997	(1.133)	1427898	80.0000	84(H)
70 Benzidine	184	12.141	12.141	(0.898)	576640	80.0000	140
* 71 Chrysene-d12	240	13.562	13.562	(1.000)	577754	40.0000	(H)
72 Pyrene	202	12.254	12.254	(0.906)	1426702	80.0000	83
\$ 73 Terphenyl-d14	244	12.425	12.425	(0.919)	1037739	80.0000	76
74 Butylbenzylphthalate	149	12.953	12.953	(0.958)	640278	80.0000	81

Compounds	QUANT SIG	AMOUNTS					
		MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/ml)
75 3,3'-Dichlorobenzidine	252	13.520	13.520 (1.000)		508463	80.0000	80
76 Benzo(a)Anthracene	228	13.552	13.552 (1.002)		1390914	80.0000	83
77 Bis(2-ethylhexyl)phthalate	149	13.562	13.562 (1.003)		855382	80.0000	81
78 Chrysene	228	13.589	13.589 (1.005)		1179495	80.0000	80
* 79 Perylene-d12	264	15.315	15.315 (1.000)		536767	40.0000	
80 Di-n-octylphthalate	149	14.262	14.262 (1.054)		1533836	80.0000	84
81 Benzo(b)fluoranthene	252	14.791	14.791 (0.966)		1467369	80.0000	90(H)
82 Benzo(k)fluoranthene	252	14.834	14.834 (0.969)		1226905	80.0000	75
83 Benzo(a)pyrene	252	15.235	15.235 (0.995)		1321678	80.0000	94
84 Indeno(1,2,3-cd)pyrene	276	17.110	17.110 (1.265)		1460797	80.0000	85
85 Dibenzo(a,h)anthracene	278	17.136	17.136 (1.119)		1205470	80.0000	82
86 Benzo(g,h,i)perylene	276	17.655	17.655 (1.153)		1215393	80.0000	83
87 Dinoseb	211	10.582	10.582 (0.999)		235126	80.0000	85
89 Acetophenone	105	6.303	6.303 (0.887)		502742	80.0000	82
90 Benzaldehyde	77	5.474	5.474 (0.925)		91479	80.0000	44
91 1,1-Biphenyl	154	8.167	8.167 (0.927)		872799	80.0000	80(H)
92 Caprolactam	113	7.472	7.472 (1.052)		118373	80.0000	81
93 Atrazine	200	10.229	10.229 (0.966)		215018	80.0000	130(H)
M 88 MethylPhenols,Total	100				692661	160.000	170

#### QC Flag Legend

Q - Qualifier signal failed the ratio test.  
 H - Operator selected an alternate compound hit.

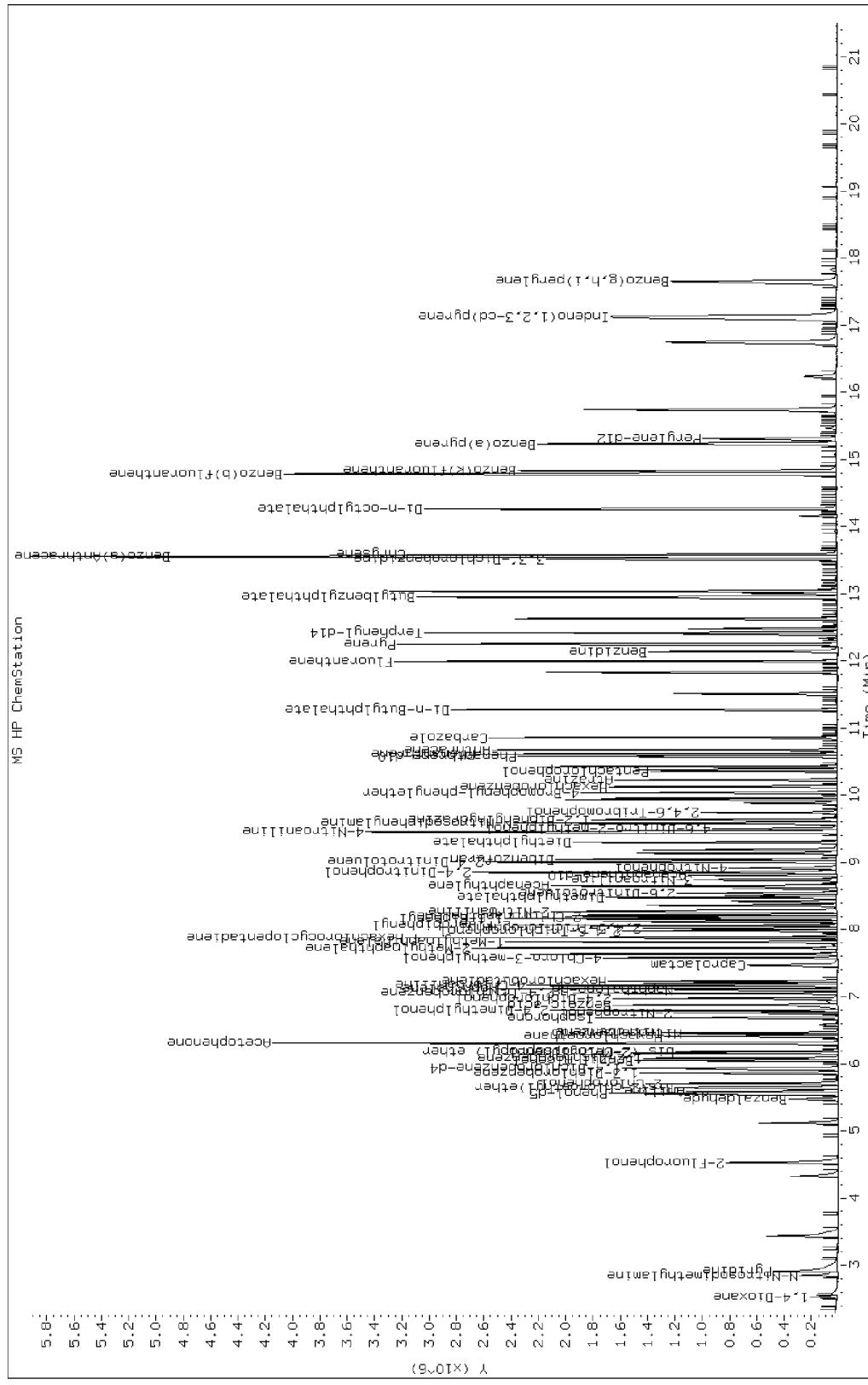
Data File: g11807q.d

Date: 18-DEC-2012 14:47

Client ID:

Instrument: MSG5973.i

Sample Info: ICV-2858117; BNAICV-59



**ATTACHMENT C**

**MATRIX SPIKE AND MATRIX SPIKE DUPLICATE EVALUATION**

FORM III  
GC/MS SEMI VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Savannah Job No.: 680-85534-5  
SDG No.: 68085534-4  
Matrix: Solid Level: Low Lab File ID: g12023.d  
Lab ID: 680-85534-5 MS Client ID: HP0012B-CS MS

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC	QC LIMITS REC	#
Acenaphthene	4020	400 U	1990	49	58-130	F
Acenaphthylene	4020	400 U	2030	50	58-130	F
Acetophenone	4020	65 J	1280	30	42-130	F
Anthracene	4020	30 J	2280	57	60-130	F
Atrazine	4020	400 U	4180	104	54-141	
Benzaldehyde	4020	170 J	1860	42	10-130	
Benzo[a]anthracene	4020	100 J	2160	51	62-130	F
Benzo[a]pyrene	4020	98 J	2020	48	68-131	F
Benzo[b]fluoranthene	4020	190 J	2120	48	53-130	F
Benzo[g,h,i]perylene	4020	91 J	1700	40	54-130	F
Benzo[k]fluoranthene	4020	400 U	2100	52	57-130	F
1,1'-Biphenyl	4020	400 U	1780	44	57-130	F
Bis(2-chloroethoxy)methane	4020	400 U	1720	43	56-130	F
Bis(2-chloroethyl)ether	4020	400 U	1400	35	42-130	F
bis (2-chloroisopropyl) ether	4020	400 U	1510	38	44-130	F
Bis(2-ethylhexyl) phthalate	4020	1100	3470	59	62-132	F
4-Bromophenyl phenyl ether	4020	400 U	2510	63	65-130	F
Butyl benzyl phthalate	4020	790	2820	51	65-134	F
Caprolactam	4020	400 U	1850	46	52-130	F
Carbazole	4020	400 U	2460	61	60-130	
4-Chloroaniline	4020	800 U	1330	33	36-130	F
4-Chloro-3-methylphenol	4020	400 U	2290	57	52-130	
2-Chloronaphthalene	4020	400 U	1830	46	55-130	F
2-Chlorophenol	4020	400 U	1490	37	51-130	F
4-Chlorophenyl phenyl ether	4020	400 U	2280	57	61-130	F
Chrysene	4020	180 J	2200	50	62-130	F
Dibenz(a,h)anthracene	4020	400 U	1830	46	56-130	F
Dibenzofuran	4020	46 J	2160	53	56-130	F
3,3'-Dichlorobenzidine	4020	800 U	156 J	4	45-130	F
2,4-Dichlorophenol	4020	400 U	1870	47	53-130	F
Diethyl phthalate	4020	400 U	2730	68	62-130	
2,4-Dimethylphenol	4020	400 U	1250	31	47-130	F
Dimethyl phthalate	4020	400 U	2540	63	63-130	
Di-n-butyl phthalate	4020	400 U	2530	63	65-130	F
4,6-Dinitro-2-methylphenol	4020	2100 U	1050 J	26	14-137	
2,4-Dinitrophenol	4020	2100 U	2000 U	0	10-154	F
2,4-Dinitrotoluene	4020	400 U	2410	60	55-130	
2,6-Dinitrotoluene	4020	400 U	2400	60	57-130	
Di-n-octyl phthalate	4020	400 U	2600	65	59-146	
Fluoranthene	4020	180 J	2330	54	62-130	F
Fluorene	4020	400 U	2250	56	58-130	F
Hexachlorobenzene	4020	400 U	2230	56	59-130	F

# Column to be used to flag recovery and RPD values

FORM III  
GC/MS SEMI VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Savannah Job No.: 680-85534-5  
SDG No.: 68085534-4  
Matrix: Solid Level: Low Lab File ID: g12023.d  
Lab ID: 680-85534-5 MS Client ID: HP0012B-CS MS

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC	QC LIMITS REC	#
Hexachlorobutadiene	4020	400 U	1640	41	47-130	F
Hexachlorocyclopentadiene	4020	400 U	257 J	6	35-130	F
Hexachloroethane	4020	400 U	1200	30	44-130	F
Indeno[1,2,3-cd]pyrene	4020	78 J	1790	43	52-130	F
Isophorone	4020	400 U	1640	41	48-130	F
2-Methylnaphthalene	4020	120 J	1760	41	55-130	F
2-Methylphenol	4020	400 U	1390	34	49-130	F
3 & 4 Methylphenol	4020	400 U	1370	34	50-130	F
Naphthalene	4020	140 J	1560	35	54-130	F
2-Nitroaniline	4020	2100 U	2310	57	52-130	
3-Nitroaniline	4020	2100 U	1660 J	41	42-130	F
4-Nitroaniline	4020	2100 U	1600 J	40	49-130	F
Nitrobenzene	4020	400 U	1450	36	43-130	F
2-Nitrophenol	4020	400 U	1560	39	45-130	F
4-Nitrophenol	4020	2100 U	2320	58	30-130	
N-Nitrosodi-n-propylamine	4020	400 U	1650	41	48-130	F
N-Nitrosodiphenylamine	4020	400 U	2530	63	62-130	
Pentachlorophenol	4020	2100 U	2010	50	38-131	
Phenanthrene	4020	190 J	2500	58	61-130	F
Phenol	4020	400 U	1480	37	46-130	F
Pyrene	4020	140 J	2230	52	59-130	F
2,4,5-Trichlorophenol	4020	400 U	2360	59	60-130	F
2,4,6-Trichlorophenol	4020	400 U	2270	56	53-130	

# Column to be used to flag recovery and RPD values

FORM III 8270D

FORM III  
GC/MS SEMI VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Savannah Job No.: 680-85534-5  
SDG No.: 68085534-4  
Matrix: Solid Level: Low Lab File ID: g12024.d  
Lab ID: 680-85534-5 MSD Client ID: HP0012B-CS MSD

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC	% RPD	QC LIMITS		#	Action
					RPD	REC		
Acenaphthene	4060	2280	56	14	50	58-130	F	UJ
Acenaphthylene	4060	2370	58	15	50	58-130		
Acetophenone	4060	2020	48	44	50	42-130		
Anthracene	4060	2350	58	3	50	60-130	F	J
Atrazine	4060	3960	98	6	50	54-141		
Benzaldehyde	4060	2830	66	41	50	10-130		
Benzo[a]anthracene	4060	2260	53	5	50	62-130	F	J
Benzo[a]pyrene	4060	2110	50	4	50	68-131	F	J
Benzo[b]fluoranthene	4060	2200	50	4	50	53-130	F	J
Benzo[g,h,i]perylene	4060	1810	42	6	50	54-130	F	J
Benzo[k]fluoranthene	4060	2070	51	2	50	57-130	F	UJ
1,1'-Biphenyl	4060	2290	57	25	50	57-130		
Bis(2-chloroethoxy)methane	4060	2460	61	35	50	56-130		
Bis(2-chloroethyl)ether	4060	2160	53	42	50	42-130		
bis (2-chloroisopropyl) ether	4060	2190	54	37	50	44-130		
Bis(2-ethylhexyl) phthalate	4060	3540	61	2	50	62-132	F	UJ
4-Bromophenyl phenyl ether	4060	2660	65	5	50	65-130		
Butyl benzyl phthalate	4060	2940	53	4	50	65-134	F	J
Caprolactam	4060	1830	45	1	50	52-130	F	UJ
Carbazole	4060	2470	61	0	50	60-130		
4-Chloroaniline	4060	1420	35	7	50	36-130	F	UJ
4-Chloro-3-methylphenol	4060	2450	61	7	50	52-130		
2-Chloronaphthalene	4060	2310	57	23	50	55-130		
2-Chlorophenol	4060	2140	53	36	50	51-130		
4-Chlorophenyl phenyl ether	4060	2490	61	9	50	61-130		
Chrysene	4060	2330	53	6	50	62-130	F	J
Dibenz(a,h)anthracene	4060	1960	48	7	50	56-130	F	UJ
Dibenzofuran	4060	2450	59	13	50	56-130		
3,3'-Dichlorobenzidine	4060	269 J	7	53	50	45-130	F	R
2,4-Dichlorophenol	4060	2390	59	24	50	53-130		
Diethyl phthalate	4060	2710	67	1	50	62-130		
2,4-Dimethylphenol	4060	1800	45	36	50	47-130	F	UJ
Dimethyl phthalate	4060	2650	65	4	50	63-130		
Di-n-butyl phthalate	4060	2570	63	2	50	65-130	F	UJ
4,6-Dinitro-2-methylphenol	4060	1150 J	28	9	50	14-137		
2,4-Dinitrophenol	4060	2100 U	0	NC	50	10-154	F	UJ
2,4-Dinitrotoluene	4060	2430	60	1	50	55-130		
2,6-Dinitrotoluene	4060	2590	64	8	50	57-130		
Di-n-octyl phthalate	4060	2670	66	3	50	59-146		
Fluoranthene	4060	2420	55	4	50	62-130	F	J
Fluorene	4060	2400	59	7	50	58-130		
Hexachlorobenzene	4060	2390	59	7	50	59-130		

# Column to be used to flag recovery and RPD values

FORM III  
GC/MS SEMI VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Savannah Job No.: 680-85534-5  
SDG No.: 68085534-4  
Matrix: Solid Level: Low Lab File ID: g12024.d  
Lab ID: 680-85534-5 MSD Client ID: HP0012B-CS MSD

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC	% RPD	QC LIMITS		#	Action
					RPD	REC		
Hexachlorobutadiene	4060	2610	64	45	50	47-130		
Hexachlorocyclopentadiene	4060	240 J	6	7	50	35-130	F	UJ
Hexachloroethane	4060	1730	43	36	50	44-130	F	UJ
Indeno[1,2,3-cd]pyrene	4060	1960	46	9	50	52-130	F	J
Isophorone	4060	2190	54	28	50	48-130		
2-Methylnaphthalene	4060	2450	57	33	50	55-130		
2-Methylphenol	4060	2010	50	37	50	49-130		
3 & 4 Methylphenol	4060	1870	46	31	50	50-130	F	UJ
Naphthalene	4060	2370	55	41	50	54-130		
2-Nitroaniline	4060	2500	62	8	50	52-130		
3-Nitroaniline	4060	1580 J	39	5	50	42-130	F	UJ
4-Nitroaniline	4060	1500 J	37	7	50	49-130	F	UJ
Nitrobenzene	4060	2210	55	42	50	43-130		
2-Nitrophenol	4060	2360	58	41	50	45-130		
4-Nitrophenol	4060	2320	57	0	50	30-130		
N-Nitrosodi-n-propylamine	4060	2310	57	34	50	48-130		
N-Nitrosodiphenylamine	4060	2610	64	3	50	62-130		
Pentachlorophenol	4060	2050 J	51	2	50	38-131		
Phenanthrene	4060	2580	59	3	50	61-130	F	J
Phenol	4060	2000	49	30	50	46-130		
Pyrene	4060	2260	52	1	50	59-130	F	
2,4,5-Trichlorophenol	4060	2530	62	7	50	60-130		
2,4,6-Trichlorophenol	4060	2430	60	7	50	53-130		

# Column to be used to flag recovery and RPD values

FORM III 8270D

**ATTACHMENT D**

**CASE NARRATIVE**

## CASE NARRATIVE

**Client: Oneida Total Integrated Enterprises LLC**

**Project: 35th Avenue Superfund Site**

**Report Number: 680-85534-5**

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

### **RECEIPT**

The samples were received on 12/7/2012 9:24 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 0.3° C, 0.4° C and 0.6° C.

### **SEMIVOLATILE ORGANIC COMPOUNDS (SOLID)**

Samples HP0012B-CS (680-85534-5), FM0025C-CS-SP (680-85534-15), FM0165N-CS (680-85534-31), HP0022A-CS (680-85534-49) and CV0442A-CS-SP (680-85534-55) were analyzed for Semivolatile Organic Compounds (Solid) in accordance with EPA SW-846 Method 8270D.

Method(s) 8270D: The initial calibration curve analyzed in batch 260483 was outside method criteria for the following analytes: benzaldehyde and atrazine. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analytes is considered an estimated concentration.

Method(s) 8270D: The following analytes have been identified, in the reference method and/or via historical data, to be poor and/or erratic performers: Famphur, 1,4-Napthaquinone, Methane sulfonate, Benzaldehyde, 1-naphthylamine, 2-naphthylamine, p-Dimethylamino azobenzene, p-phenylenediamine, a,a-dimethylphenethylamine, Methapyriline, 2-picoline (2-methylpyridine), 3,3'-dimethylbenzidine, 3,3'-dichlorobenzidine, Benzidine, Benzaldehyde, Benzoic acid, Dinoseb, Hexachlorophene, Hexachlorocyclopentadiene, o,o,o-triethylphosphoro-thioate. These analytes may have a %D>60% if the average %D of all the analytes in the initial calibration verification (ICV) is 30%.

Method(s) 8270D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and/or precision for several analytes were outside control limits. Refer to QC pages for details.

Method(s) 8270D: Surrogate recovery was outside acceptance limits for the following matrix spike/matrix spike duplicate (MS/MSD) samples: HP0012B-CS (680-85534-5 MS), HP0012B-CS (680-85534-5 MSD). The parent sample's surrogate recovery was within limits. The MS/MSD sample has been qualified and reported.

Method(s) 8270D: Manual integration was performed on the following samples: CV0442A-CS-SP (680-85534-55), FM0025C-CS-SP (680-85534-15), FM0165N-CS (680-85534-31), HP0022A-CS (680-85534-49), HP0012B-CS (680-85534-5).

### **METALS (ICP)**

Samples HP0012B-CS (680-85534-5), FM0080A-CS-SP (680-85534-10), FM0165A-CS (680-85534-18), HP0067A-CS (680-85534-53), FM0165A-CS (sieve) (680-85534-57), FM0080A-CS-SP (sieve) (680-85534-58), FM0067A-CS (sieve) (680-85534-59) and HP0012B-CS (sieve) (680-85534-60) were analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C.

Method(s) 6010C: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and/or precision for several analytes were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria. Refer to QC report for details.

Method(s) 6010C: Due to the high concentration of barium and lead, the matrix spike / matrix spike duplicate (MS/MSD) for batch 680-259196 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method(s) 6010C: Due to the high concentration of barium and lead, the matrix spike / matrix spike duplicate (MS/MSD) for batch 680-259365 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method(s) 6010C: Due to the high concentration of barium, chromium, and lead, the matrix spike / matrix spike duplicate (MS/MSD) for batch 680-259807 could not be

### **TOTAL MERCURY**

Samples HP0012B-CS (680-85534-5), FM0080A-CS-SP (680-85534-10), FM0165A-CS (680-85534-18), HP0067A-CS (680-85534-53), FM0165A-CS (sieve) (680-85534-57), FM0080A-CS-SP (sieve) (680-85534-58), FM0067A-CS (sieve) (680-85534-59) and HP0012B-CS

(sieve) (680-85534-60) were analyzed for total mercury in accordance with EPA SW-846 Method 7471A.

**HEXAVALENT CHROMIUM**

Sample HP0067A-CS (680-85534-53) was analyzed for hexavalent chromium in accordance with EPA SW-846 Method 3060A/7196A.

Method(s) 7196A: The matrix spike (MS) recoveries for batches 259749 and 260296 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

**ATTACHMENT E**

**QUALIFIED SAMPLE RESULTS**

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-85534-5

SDG No.: 68085534-4

Client Sample ID: HP0012B-CS

Lab Sample ID: 680-85534-5

Matrix: Solid

Lab File ID: gl2025.d

Analysis Method: 8270D

Date Collected: 12/05/2012 11:45

Extract. Method: 3546

Date Extracted: 12/18/2012 17:56

Sample wt/vol: 30.12(g)

Date Analyzed: 12/21/2012 02:28

Con. Extract Vol.: 1(mL)

Dilution Factor: 1

Injection Volume: 1(uL)

Level: (low/med) Low

% Moisture: 18.0

GPC Cleanup:(Y/N) N

Analysis Batch No.: 260718

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	400	U J	400	50
208-96-8	Acenaphthylene	400	U	400	44
98-86-2	Acetophenone	65	J	400	34
120-12-7	Anthracene	30	J	400	30
1912-24-9	Atrazine	400	U J	400	28
100-52-7	Benzaldehyde	170	J	400	70
56-55-3	Benzo[a]anthracene	100	J	400	33
50-32-8	Benzo[a]pyrene	98	J	400	63
205-99-2	Benzo[b]fluoranthene	190	J	400	46
191-24-2	Benzo[g,h,i]perylene	91	J	400	27
207-08-9	Benzo[k]fluoranthene	400	U J	400	79
92-52-4	1,1'-Biphenyl	400	U	400	900
111-91-1	Bis(2-chloroethoxy)methane	400	U	400	47
111-44-4	Bis(2-chloroethyl)ether	400	U	400	55
108-60-1	bis (2-chloroisopropyl) ether	400	U	400	36
117-81-7	Bis(2-ethylhexyl) phthalate	1100		400	35
101-55-3	4-Bromophenyl phenyl ether	400	U J	400	44
85-68-7	Butyl benzyl phthalate	790	J	400	32
105-60-2	Caprolactam	400	U J	400	80
86-74-8	Carbazole	400	U	400	36
106-47-8	4-Chloroaniline	800	U J	800	63
59-50-7	4-Chloro-3-methylphenol	400	U	400	42
91-58-7	2-Chloronaphthalene	400	U	400	42
95-57-8	2-Chlorophenol	400	U	400	49
7005-72-3	4-Chlorophenyl phenyl ether	400	U	400	53
218-01-9	Chrysene	180	J	400	25
53-70-3	Dibenz(a,h)anthracene	400	U J	400	47
132-64-9	Dibenzofuran	46	J	400	40
91-94-1	3,3'-Dichlorobenzidine	800	U R	800	34
120-83-2	2,4-Dichlorophenol	400	U	400	42
84-66-2	Diethyl phthalate	400	U	400	45
105-67-9	2,4-Dimethylphenol	400	U J	400	53
131-11-3	Dimethyl phthalate	400	U	400	41
84-74-2	Di-n-butyl phthalate	400	U J	400	36

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-85534-5

SDG No.: 68085534-4

Client Sample ID: HP0012B-CS

Lab Sample ID: 680-85534-5

Matrix: Solid

Lab File ID: gl2025.d

Analysis Method: 8270D

Date Collected: 12/05/2012 11:45

Extract. Method: 3546

Date Extracted: 12/18/2012 17:56

Sample wt/vol: 30.12(g)

Date Analyzed: 12/21/2012 02:28

Con. Extract Vol.: 1(mL)

Dilution Factor: 1

Injection Volume: 1(uL)

Level: (low/med) Low

% Moisture: 18.0

GPC Cleanup: (Y/N) N

Analysis Batch No.: 260718

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
534-52-1	4,6-Dinitro-2-methylphenol	2100	U	2100	210
51-28-5	2,4-Dinitrophenol	2100	U	2100	1000
121-14-2	2,4-Dinitrotoluene	400	U	400	59
606-20-2	2,6-Dinitrotoluene	400	U	400	51
117-84-0	Di-n-octyl phthalate	400	U	400	35
206-44-0	Fluoranthene	180	J	400	39
86-73-7	Fluorene	400	U	400	44
118-74-1	Hexachlorobenzene	400	U	400	47
87-68-3	Hexachlorobutadiene	400	U	400	44
77-47-4	Hexachlorocyclopentadiene	400	UJ	400	50
67-72-1	Hexachloroethane	400	UJ	400	34
193-39-5	Indeno[1,2,3-cd]pyrene	78	J	400	34
78-59-1	Isophorone	400	U	400	40
91-57-6	2-Methylnaphthalene	120	J	400	46
95-48-7	2-Methylphenol	400	U	400	33
15831-10-4	3 & 4 Methylphenol	400	UJ	400	52
91-20-3	Naphthalene	140	J	400	36
88-74-4	2-Nitroaniline	2100	U	2100	55
99-09-2	3-Nitroaniline	2100	UJ	2100	56
100-01-6	4-Nitroaniline	2100	UJ	2100	59
98-95-3	Nitrobenzene	400	U	400	32
88-75-5	2-Nitrophenol	400	U	400	50
100-02-7	4-Nitrophenol	2100	U	2100	400
621-64-7	N-Nitrosodi-n-propylamine	400	U	400	39
86-30-6	N-Nitrosodiphenylamine	400	U	400	40
87-86-5	Pentachlorophenol	2100	U	2100	400
85-01-8	Phenanthrene	190	J	400	33
108-95-2	Phenol	400	U	400	41
129-00-0	Pyrene	140	J	400	33
95-95-4	2,4,5-Trichlorophenol	400	U	400	42
88-06-2	2,4,6-Trichlorophenol	400	U	400	35

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-85534-5

SDG No.: 68085534-4

Client Sample ID: HP0012B-CS

Lab Sample ID: 680-85534-5

Matrix: Solid

Lab File ID: gl2025.d

Analysis Method: 8270D

Date Collected: 12/05/2012 11:45

Extract. Method: 3546

Date Extracted: 12/18/2012 17:56

Sample wt/vol: 30.12(g)

Date Analyzed: 12/21/2012 02:28

Con. Extract Vol.: 1 (mL)

Dilution Factor: 1

Injection Volume: 1 (uL)

Level: (low/med) Low

% Moisture: 18.0

GPC Cleanup: (Y/N) N

Analysis Batch No.: 260718

Units: ug/Kg

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	72		58-130
367-12-4	2-Fluorophenol (Surr)	57		40-130
4165-60-0	Nitrobenzene-d5 (Surr)	65		46-130
4165-62-2	Phenol-d5 (Surr)	55		49-130
1718-51-0	Terphenyl-d14 (Surr)	75		60-130
118-79-6	2,4,6-Tribromophenol (Surr)	73		58-130

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-85534-5

SDG No.: 68085534-4

Client Sample ID: FM0025C-CS-SP

Lab Sample ID: 680-85534-15

Matrix: Solid

Lab File ID: gl2039.d

Analysis Method: 8270D

Date Collected: 12/05/2012 09:42

Extract. Method: 3546

Date Extracted: 12/18/2012 17:56

Sample wt/vol: 30.32(g)

Date Analyzed: 12/21/2012 09:57

Con. Extract Vol.: 1(mL)

Dilution Factor: 1

Injection Volume: 1(uL)

Level: (low/med) Low

% Moisture: 19.9

GPC Cleanup:(Y/N) N

Analysis Batch No.: 260727

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	410	U	410	51
208-96-8	Acenaphthylene	410	U	410	44
98-86-2	Acetophenone	410	U	410	35
120-12-7	Anthracene	410	U	410	31
1912-24-9	Atrazine	410	UJ	410	28
100-52-7	Benzaldehyde	110	J	410	72
56-55-3	Benzo[a]anthracene	48	J	410	33
50-32-8	Benzo[a]pyrene	410	U	410	64
205-99-2	Benzo[b]fluoranthene	74	J	410	47
191-24-2	Benzo[g,h,i]perylene	37	J	410	27
207-08-9	Benzo[k]fluoranthene	410	U	410	80
92-52-4	1,1'-Biphenyl	410	U	410	910
111-91-1	Bis(2-chloroethoxy)methane	410	U	410	48
111-44-4	Bis(2-chloroethyl)ether	410	U	410	56
108-60-1	bis (2-chloroisopropyl) ether	410	U	410	37
117-81-7	Bis(2-ethylhexyl) phthalate	410	U	410	36
101-55-3	4-Bromophenyl phenyl ether	410	U	410	44
85-68-7	Butyl benzyl phthalate	410	U	410	32
105-60-2	Caprolactam	410	U	410	82
86-74-8	Carbazole	410	U	410	37
106-47-8	4-Chloroaniline	820	U	820	64
59-50-7	4-Chloro-3-methylphenol	410	U	410	43
91-58-7	2-Chloronaphthalene	410	U	410	43
95-57-8	2-Chlorophenol	410	U	410	49
7005-72-3	4-Chlorophenyl phenyl ether	410	U	410	54
218-01-9	Chrysene	80	J	410	26
53-70-3	Dibenz(a,h)anthracene	410	U	410	48
132-64-9	Dibenzofuran	410	U	410	41
91-94-1	3,3'-Dichlorobenzidine	820	U	820	35
120-83-2	2,4-Dichlorophenol	410	U	410	43
84-66-2	Diethyl phthalate	410	U	410	46
105-67-9	2,4-Dimethylphenol	410	U	410	54
131-11-3	Dimethyl phthalate	410	U	410	42
84-74-2	Di-n-butyl phthalate	410	U	410	37

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-85534-5

SDG No.: 68085534-4

Client Sample ID: FM0025C-CS-SP

Lab Sample ID: 680-85534-15

Matrix: Solid

Lab File ID: gl2039.d

Analysis Method: 8270D

Date Collected: 12/05/2012 09:42

Extract. Method: 3546

Date Extracted: 12/18/2012 17:56

Sample wt/vol: 30.32(g)

Date Analyzed: 12/21/2012 09:57

Con. Extract Vol.: 1(mL)

Dilution Factor: 1

Injection Volume: 1(uL)

Level: (low/med) Low

% Moisture: 19.9

GPC Cleanup: (Y/N) N

Analysis Batch No.: 260727

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
534-52-1	4,6-Dinitro-2-methylphenol	2100	U	2100	210
51-28-5	2,4-Dinitrophenol	2100	U	2100	1000
121-14-2	2,4-Dinitrotoluene	410	U	410	61
606-20-2	2,6-Dinitrotoluene	410	U	410	52
117-84-0	Di-n-octyl phthalate	410	U	410	36
206-44-0	Fluoranthene	88	J	410	40
86-73-7	Fluorene	410	U	410	44
118-74-1	Hexachlorobenzene	410	U	410	48
87-68-3	Hexachlorobutadiene	410	U	410	44
77-47-4	Hexachlorocyclopentadiene	410	U	410	51
67-72-1	Hexachloroethane	410	U	410	35
193-39-5	Indeno[1,2,3-cd]pyrene	410	U	410	35
78-59-1	Isophorone	410	U	410	41
91-57-6	2-Methylnaphthalene	410	U	410	47
95-48-7	2-Methylphenol	410	U	410	33
15831-10-4	3 & 4 Methylphenol	410	U	410	53
91-20-3	Naphthalene	120	J	410	37
88-74-4	2-Nitroaniline	2100	U	2100	56
99-09-2	3-Nitroaniline	2100	U	2100	57
100-01-6	4-Nitroaniline	2100	U	2100	61
98-95-3	Nitrobenzene	410	U	410	32
88-75-5	2-Nitrophenol	410	U	410	51
100-02-7	4-Nitrophenol	2100	U	2100	410
621-64-7	N-Nitrosodi-n-propylamine	410	U	410	40
86-30-6	N-Nitrosodiphenylamine	410	U	410	41
87-86-5	Pentachlorophenol	2100	U	2100	410
85-01-8	Phenanthrene	77	J	410	33
108-95-2	Phenol	410	U	410	42
129-00-0	Pyrene	71	J	410	33
95-95-4	2,4,5-Trichlorophenol	410	U	410	43
88-06-2	2,4,6-Trichlorophenol	410	U	410	36

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-85534-5

SDG No.: 68085534-4

Client Sample ID: FM0025C-CS-SP

Lab Sample ID: 680-85534-15

Matrix: Solid

Lab File ID: gl2039.d

Analysis Method: 8270D

Date Collected: 12/05/2012 09:42

Extract. Method: 3546

Date Extracted: 12/18/2012 17:56

Sample wt/vol: 30.32(g)

Date Analyzed: 12/21/2012 09:57

Con. Extract Vol.: 1(mL)

Dilution Factor: 1

Injection Volume: 1(uL)

Level: (low/med) Low

% Moisture: 19.9

GPC Cleanup:(Y/N) N

Analysis Batch No.: 260727

Units: ug/Kg

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	64		58-130
367-12-4	2-Fluorophenol (Surr)	61		40-130
4165-60-0	Nitrobenzene-d5 (Surr)	61		46-130
4165-62-2	Phenol-d5 (Surr)	54		49-130
1718-51-0	Terphenyl-d14 (Surr)	72		60-130
118-79-6	2,4,6-Tribromophenol (Surr)	68		58-130

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-85534-5

SDG No.: 68085534-4

Client Sample ID: FM0165N-CS

Lab Sample ID: 680-85534-31

Matrix: Solid

Lab File ID: gl2040.d

Analysis Method: 8270D

Date Collected: 12/05/2012 10:56

Extract. Method: 3546

Date Extracted: 12/18/2012 17:56

Sample wt/vol: 30.21(g)

Date Analyzed: 12/21/2012 10:27

Con. Extract Vol.: 1(mL)

Dilution Factor: 1

Injection Volume: 1(uL)

Level: (low/med) Low

% Moisture: 29.2

GPC Cleanup:(Y/N) N

Analysis Batch No.: 260727

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	460	U	460	57
208-96-8	Acenaphthylene	460	U	460	50
98-86-2	Acetophenone	460	U	460	39
120-12-7	Anthracene	460	U	460	35
1912-24-9	Atrazine	460	UJ	460	32
100-52-7	Benzaldehyde	130	J	460	81
56-55-3	Benzo[a]anthracene	110	J	460	38
50-32-8	Benzo[a]pyrene	110	J	460	73
205-99-2	Benzo[b]fluoranthene	170	J	460	53
191-24-2	Benzo[g,h,i]perylene	82	J	460	31
207-08-9	Benzo[k]fluoranthene	460	U	460	91
92-52-4	1,1'-Biphenyl	460	U	460	1000
111-91-1	Bis(2-chloroethoxy)methane	460	U	460	55
111-44-4	Bis(2-chloroethyl)ether	460	U	460	63
108-60-1	bis (2-chloroisopropyl) ether	460	U	460	42
117-81-7	Bis(2-ethylhexyl) phthalate	460	U	460	41
101-55-3	4-Bromophenyl phenyl ether	460	U	460	50
85-68-7	Butyl benzyl phthalate	460	U	460	36
105-60-2	Caprolactam	460	U	460	93
86-74-8	Carbazole	460	U	460	42
106-47-8	4-Chloroaniline	930	U	930	73
59-50-7	4-Chloro-3-methylphenol	460	U	460	49
91-58-7	2-Chloronaphthalene	460	U	460	49
95-57-8	2-Chlorophenol	460	U	460	56
7005-72-3	4-Chlorophenyl phenyl ether	460	U	460	62
218-01-9	Chrysene	190	J	460	29
53-70-3	Dibenz(a,h)anthracene	460	U	460	55
132-64-9	Dibenzofuran	460	U	460	46
91-94-1	3,3'-Dichlorobenzidine	930	U	930	39
120-83-2	2,4-Dichlorophenol	460	U	460	49
84-66-2	Diethyl phthalate	460	U	460	52
105-67-9	2,4-Dimethylphenol	460	U	460	62
131-11-3	Dimethyl phthalate	460	U	460	48
84-74-2	Di-n-butyl phthalate	460	U	460	42

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-85534-5

SDG No.: 68085534-4

Client Sample ID: FM0165N-CS

Lab Sample ID: 680-85534-31

Matrix: Solid

Lab File ID: gl2040.d

Analysis Method: 8270D

Date Collected: 12/05/2012 10:56

Extract. Method: 3546

Date Extracted: 12/18/2012 17:56

Sample wt/vol: 30.21(g)

Date Analyzed: 12/21/2012 10:27

Con. Extract Vol.: 1 (mL)

Dilution Factor: 1

Injection Volume: 1 (uL)

Level: (low/med) Low

% Moisture: 29.2

GPC Cleanup: (Y/N) N

Analysis Batch No.: 260727

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
534-52-1	4,6-Dinitro-2-methylphenol	2400	U	2400	240
51-28-5	2,4-Dinitrophenol	2400	U	2400	1200
121-14-2	2,4-Dinitrotoluene	460	U	460	69
606-20-2	2,6-Dinitrotoluene	460	U	460	59
117-84-0	Di-n-octyl phthalate	460	U	460	41
206-44-0	Fluoranthene	230	J	460	45
86-73-7	Fluorene	460	U	460	50
118-74-1	Hexachlorobenzene	460	U	460	55
87-68-3	Hexachlorobutadiene	460	U	460	50
77-47-4	Hexachlorocyclopentadiene	460	U	460	57
67-72-1	Hexachloroethane	460	U	460	39
193-39-5	Indeno[1,2,3-cd]pyrene	72	J	460	39
78-59-1	Isophorone	460	U	460	46
91-57-6	2-Methylnaphthalene	100	J	460	53
95-48-7	2-Methylphenol	460	U	460	38
15831-10-4	3 & 4 Methylphenol	460	U	460	60
91-20-3	Naphthalene	160	J	460	42
88-74-4	2-Nitroaniline	2400	U	2400	63
99-09-2	3-Nitroaniline	2400	U	2400	65
100-01-6	4-Nitroaniline	2400	U	2400	69
98-95-3	Nitrobenzene	460	U	460	36
88-75-5	2-Nitrophenol	460	U	460	57
100-02-7	4-Nitrophenol	2400	U	2400	460
621-64-7	N-Nitrosodi-n-propylamine	460	U	460	45
86-30-6	N-Nitrosodiphenylamine	460	U	460	46
87-86-5	Pentachlorophenol	2400	U	2400	460
85-01-8	Phenanthrene	210	J	460	38
108-95-2	Phenol	460	U	460	48
129-00-0	Pyrene	170	J	460	38
95-95-4	2,4,5-Trichlorophenol	460	U	460	49
88-06-2	2,4,6-Trichlorophenol	460	U	460	41

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-85534-5

SDG No.: 68085534-4

Client Sample ID: FM0165N-CS

Lab Sample ID: 680-85534-31

Matrix: Solid

Lab File ID: gl2040.d

Analysis Method: 8270D

Date Collected: 12/05/2012 10:56

Extract. Method: 3546

Date Extracted: 12/18/2012 17:56

Sample wt/vol: 30.21(g)

Date Analyzed: 12/21/2012 10:27

Con. Extract Vol.: 1 (mL)

Dilution Factor: 1

Injection Volume: 1 (uL)

Level: (low/med) Low

% Moisture: 29.2

GPC Cleanup: (Y/N) N

Analysis Batch No.: 260727

Units: ug/Kg

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	63		58-130
367-12-4	2-Fluorophenol (Surr)	57		40-130
4165-60-0	Nitrobenzene-d5 (Surr)	58		46-130
4165-62-2	Phenol-d5 (Surr)	55		49-130
1718-51-0	Terphenyl-d14 (Surr)	69		60-130
118-79-6	2,4,6-Tribromophenol (Surr)	70		58-130

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-85534-5

SDG No.: 68085534-4

Client Sample ID: HP0022A-CS

Lab Sample ID: 680-85534-49

Matrix: Solid

Lab File ID: gl2041.d

Analysis Method: 8270D

Date Collected: 12/05/2012 13:45

Extract. Method: 3546

Date Extracted: 12/18/2012 17:56

Sample wt/vol: 30.44(g)

Date Analyzed: 12/21/2012 10:56

Con. Extract Vol.: 1(mL)

Dilution Factor: 1

Injection Volume: 1(uL)

Level: (low/med) Low

% Moisture: 25.8

GPC Cleanup:(Y/N) N

Analysis Batch No.: 260727

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	440	U	440	54
208-96-8	Acenaphthylene	440	U	440	48
98-86-2	Acetophenone	440	U	440	37
120-12-7	Anthracene	38	J	440	33
1912-24-9	Atrazine	440	UJ	440	31
100-52-7	Benzaldehyde	170	J	440	77
56-55-3	Benzo[a]anthracene	170	J	440	36
50-32-8	Benzo[a]pyrene	180	J	440	69
205-99-2	Benzo[b]fluoranthene	290	J	440	50
191-24-2	Benzo[g,h,i]perylene	130	J	440	29
207-08-9	Benzo[k]fluoranthene	100	J	440	86
92-52-4	1,1'-Biphenyl	440	U	440	980
111-91-1	Bis(2-chloroethoxy)methane	440	U	440	52
111-44-4	Bis(2-chloroethyl)ether	440	U	440	60
108-60-1	bis (2-chloroisopropyl) ether	440	U	440	40
117-81-7	Bis(2-ethylhexyl) phthalate	440	U	440	39
101-55-3	4-Bromophenyl phenyl ether	440	U	440	48
85-68-7	Butyl benzyl phthalate	440	U	440	35
105-60-2	Caprolactam	440	U	440	88
86-74-8	Carbazole	440	U	440	40
106-47-8	4-Chloroaniline	880	U	880	69
59-50-7	4-Chloro-3-methylphenol	440	U	440	46
91-58-7	2-Chloronaphthalene	440	U	440	46
95-57-8	2-Chlorophenol	440	U	440	53
7005-72-3	4-Chlorophenyl phenyl ether	440	U	440	58
218-01-9	Chrysene	260	J	440	28
53-70-3	Dibenz(a,h)anthracene	440	U	440	52
132-64-9	Dibenzofuran	440	U	440	44
91-94-1	3,3'-Dichlorobenzidine	880	U	880	37
120-83-2	2,4-Dichlorophenol	440	U	440	46
84-66-2	Diethyl phthalate	440	U	440	49
105-67-9	2,4-Dimethylphenol	440	U	440	58
131-11-3	Dimethyl phthalate	440	U	440	45
84-74-2	Di-n-butyl phthalate	440	U	440	40

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-85534-5

SDG No.: 68085534-4

Client Sample ID: HP0022A-CS

Lab Sample ID: 680-85534-49

Matrix: Solid

Lab File ID: gl2041.d

Analysis Method: 8270D

Date Collected: 12/05/2012 13:45

Extract. Method: 3546

Date Extracted: 12/18/2012 17:56

Sample wt/vol: 30.44(g)

Date Analyzed: 12/21/2012 10:56

Con. Extract Vol.: 1(mL)

Dilution Factor: 1

Injection Volume: 1(uL)

Level: (low/med) Low

% Moisture: 25.8

GPC Cleanup: (Y/N) N

Analysis Batch No.: 260727

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
534-52-1	4,6-Dinitro-2-methylphenol	2300	U	2300	230
51-28-5	2,4-Dinitrophenol	2300	U	2300	1100
121-14-2	2,4-Dinitrotoluene	440	U	440	65
606-20-2	2,6-Dinitrotoluene	440	U	440	56
117-84-0	Di-n-octyl phthalate	440	U	440	39
206-44-0	Fluoranthene	320	J	440	42
86-73-7	Fluorene	440	U	440	48
118-74-1	Hexachlorobenzene	440	U	440	52
87-68-3	Hexachlorobutadiene	440	U	440	48
77-47-4	Hexachlorocyclopentadiene	440	U	440	54
67-72-1	Hexachloroethane	440	U	440	37
193-39-5	Indeno[1,2,3-cd]pyrene	120	J	440	37
78-59-1	Isophorone	440	U	440	44
91-57-6	2-Methylnaphthalene	77	J	440	50
95-48-7	2-Methylphenol	440	U	440	36
15831-10-4	3 & 4 Methylphenol	440	U	440	57
91-20-3	Naphthalene	82	J	440	40
88-74-4	2-Nitroaniline	2300	U	2300	60
99-09-2	3-Nitroaniline	2300	U	2300	61
100-01-6	4-Nitroaniline	2300	U	2300	65
98-95-3	Nitrobenzene	440	U	440	35
88-75-5	2-Nitrophenol	440	U	440	54
100-02-7	4-Nitrophenol	2300	U	2300	440
621-64-7	N-Nitrosodi-n-propylamine	440	U	440	42
86-30-6	N-Nitrosodiphenylamine	440	U	440	44
87-86-5	Pentachlorophenol	2300	U	2300	440
85-01-8	Phenanthrene	210	J	440	36
108-95-2	Phenol	440	U	440	45
129-00-0	Pyrene	270	J	440	36
95-95-4	2,4,5-Trichlorophenol	440	U	440	46
88-06-2	2,4,6-Trichlorophenol	440	U	440	39

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-85534-5

SDG No.: 68085534-4

Client Sample ID: HP0022A-CS

Lab Sample ID: 680-85534-49

Matrix: Solid

Lab File ID: gl2041.d

Analysis Method: 8270D

Date Collected: 12/05/2012 13:45

Extract. Method: 3546

Date Extracted: 12/18/2012 17:56

Sample wt/vol: 30.44(g)

Date Analyzed: 12/21/2012 10:56

Con. Extract Vol.: 1(mL)

Dilution Factor: 1

Injection Volume: 1(uL)

Level: (low/med) Low

% Moisture: 25.8

GPC Cleanup:(Y/N) N

Analysis Batch No.: 260727

Units: ug/Kg

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	67		58-130
367-12-4	2-Fluorophenol (Surr)	55		40-130
4165-60-0	Nitrobenzene-d5 (Surr)	61		46-130
4165-62-2	Phenol-d5 (Surr)	53		49-130
1718-51-0	Terphenyl-d14 (Surr)	72		60-130
118-79-6	2,4,6-Tribromophenol (Surr)	67		58-130

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-85534-5

SDG No.: 68085534-4

Client Sample ID: CV0442A-CS-SP

Lab Sample ID: 680-85534-55

Matrix: Solid

Lab File ID: gl2042.d

Analysis Method: 8270D

Date Collected: 12/05/2012 13:56

Extract. Method: 3546

Date Extracted: 12/18/2012 17:56

Sample wt/vol: 30.41(g)

Date Analyzed: 12/21/2012 11:25

Con. Extract Vol.: 1(mL)

Dilution Factor: 1

Injection Volume: 1(uL)

Level: (low/med) Low

% Moisture: 13.3

GPC Cleanup:(Y/N) N

Analysis Batch No.: 260727

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	380	U	380	47
208-96-8	Acenaphthylene	380	U	380	41
98-86-2	Acetophenone	380	U	380	32
120-12-7	Anthracene	380	U	380	28
1912-24-9	Atrazine	380	UJ	380	26
100-52-7	Benzaldehyde	100	J	380	66
56-55-3	Benzo[a]anthracene	150	J	380	31
50-32-8	Benzo[a]pyrene	150	J	380	59
205-99-2	Benzo[b]fluoranthene	220	J	380	43
191-24-2	Benzo[g,h,i]perylene	110	J	380	25
207-08-9	Benzo[k]fluoranthene	86	J	380	74
92-52-4	1,1'-Biphenyl	380	U	380	840
111-91-1	Bis(2-chloroethoxy)methane	380	U	380	44
111-44-4	Bis(2-chloroethyl)ether	380	U	380	51
108-60-1	bis (2-chloroisopropyl) ether	380	U	380	34
117-81-7	Bis(2-ethylhexyl) phthalate	330	J	380	33
101-55-3	4-Bromophenyl phenyl ether	380	U	380	41
85-68-7	Butyl benzyl phthalate	380	U	380	30
105-60-2	Caprolactam	380	U	380	75
86-74-8	Carbazole	380	U	380	34
106-47-8	4-Chloroaniline	750	U	750	59
59-50-7	4-Chloro-3-methylphenol	380	U	380	40
91-58-7	2-Chloronaphthalene	380	U	380	40
95-57-8	2-Chlorophenol	380	U	380	45
7005-72-3	4-Chlorophenyl phenyl ether	380	U	380	50
218-01-9	Chrysene	210	J	380	24
53-70-3	Dibenz(a,h)anthracene	380	U	380	44
132-64-9	Dibenzofuran	380	U	380	38
91-94-1	3,3'-Dichlorobenzidine	750	U	750	32
120-83-2	2,4-Dichlorophenol	380	U	380	40
84-66-2	Diethyl phthalate	380	U	380	42
105-67-9	2,4-Dimethylphenol	380	U	380	50
131-11-3	Dimethyl phthalate	380	U	380	39
84-74-2	Di-n-butyl phthalate	380	U	380	34

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-85534-5

SDG No.: 68085534-4

Client Sample ID: CV0442A-CS-SP

Lab Sample ID: 680-85534-55

Matrix: Solid

Lab File ID: gl2042.d

Analysis Method: 8270D

Date Collected: 12/05/2012 13:56

Extract. Method: 3546

Date Extracted: 12/18/2012 17:56

Sample wt/vol: 30.41(g)

Date Analyzed: 12/21/2012 11:25

Con. Extract Vol.: 1(mL)

Dilution Factor: 1

Injection Volume: 1(uL)

Level: (low/med) Low

% Moisture: 13.3

GPC Cleanup:(Y/N) N

Analysis Batch No.: 260727

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
534-52-1	4,6-Dinitro-2-methylphenol	1900	U	1900	190
51-28-5	2,4-Dinitrophenol	1900	U	1900	940
121-14-2	2,4-Dinitrotoluene	380	U	380	56
606-20-2	2,6-Dinitrotoluene	380	U	380	48
117-84-0	Di-n-octyl phthalate	380	U	380	33
206-44-0	Fluoranthene	210	J	380	36
86-73-7	Fluorene	380	U	380	41
118-74-1	Hexachlorobenzene	380	U	380	44
87-68-3	Hexachlorobutadiene	380	U	380	41
77-47-4	Hexachlorocyclopentadiene	380	U	380	47
67-72-1	Hexachloroethane	380	U	380	32
193-39-5	Indeno[1,2,3-cd]pyrene	97	J	380	32
78-59-1	Isophorone	380	U	380	38
91-57-6	2-Methylnaphthalene	84	J	380	43
95-48-7	2-Methylphenol	380	U	380	31
15831-10-4	3 & 4 Methylphenol	380	U	380	49
91-20-3	Naphthalene	57	J	380	34
88-74-4	2-Nitroaniline	1900	U	1900	51
99-09-2	3-Nitroaniline	1900	U	1900	52
100-01-6	4-Nitroaniline	1900	U	1900	56
98-95-3	Nitrobenzene	380	U	380	30
88-75-5	2-Nitrophenol	380	U	380	47
100-02-7	4-Nitrophenol	1900	U	1900	380
621-64-7	N-Nitrosodi-n-propylamine	380	U	380	36
86-30-6	N-Nitrosodiphenylamine	380	U	380	38
87-86-5	Pentachlorophenol	1900	U	1900	380
85-01-8	Phenanthrene	140	J	380	31
108-95-2	Phenol	380	U	380	39
129-00-0	Pyrene	180	J	380	31
95-95-4	2,4,5-Trichlorophenol	380	U	380	40
88-06-2	2,4,6-Trichlorophenol	380	U	380	33

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-85534-5

SDG No.: 68085534-4

Client Sample ID: CV0442A-CS-SP

Lab Sample ID: 680-85534-55

Matrix: Solid

Lab File ID: gl2042.d

Analysis Method: 8270D

Date Collected: 12/05/2012 13:56

Extract. Method: 3546

Date Extracted: 12/18/2012 17:56

Sample wt/vol: 30.41(g)

Date Analyzed: 12/21/2012 11:25

Con. Extract Vol.: 1 (mL)

Dilution Factor: 1

Injection Volume: 1 (uL)

Level: (low/med) Low

% Moisture: 13.3

GPC Cleanup: (Y/N) N

Analysis Batch No.: 260727

Units: ug/Kg

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	61		58-130
367-12-4	2-Fluorophenol (Surr)	54		40-130
4165-60-0	Nitrobenzene-d5 (Surr)	52		46-130
4165-62-2	Phenol-d5 (Surr)	51		49-130
1718-51-0	Terphenyl-d14 (Surr)	63		60-130
118-79-6	2,4,6-Tribromophenol (Surr)	65		58-130